UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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April 30, 2009

Colonel John E. Pulliam, Jr.
District Engineer
U.S. Army Corps of Engineers
Wilmington District
P.O. Box 1890
Wilmington, NC 28402-1890

Attn: C. Scott McLendon
Assistant Chief, Regulatory Division

Subject: **COE Regulatory Draft Environmental Impact Statement (DEIS) for Proposed Construction of Regional Wastewater Pumping, Conveyance, Treatment, & Discharge Facilities to serve the Towns of Apex, Cary, Holly Springs and Morrisville, as well as the Wake County portion of Research Triangle Park, NC, CEQ #20090065; ERP #COE-E39077-NC**

Dear Colonel Pulliam:

Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, EPA Region 4 has reviewed the above-referenced U.S. Army Corps of Engineers (COE) Wilmington District regulatory Draft Environmental Impact Statement (DEIS) for the proposed construction of regional wastewater pumping, conveyance, treatment, and discharge facilities to serve the Towns of Apex, Cary, Holly Springs and Morrisville, as well as the Wake County portion of Research Triangle Park, North Carolina. We understand that the Towns of Apex, Cary, Holly Springs and Morrisville are working collaboratively on this project. The DEIS was transmitted under cover letter dated March 4, 2009 from the Wilmington District to Ms. Pearl Young of EPA's Office of Federal Activities in Washington, DC. The DEIS was also received on March 9, 2009 by EPA Region 4's NEPA Program Office in Atlanta, GA. In this response letter, EPA Region 4 will offer its comments based upon our review of the DEIS.

A previous Draft Environmental Impact Statement (DEIS) was prepared for the Western Wake Regional Western Wake Regional Wastewater Management Facilities project under the requirements of the State Environmental Policy Act (SEPA). A Public Hearing for the SEPA Draft EIS and Draft Section 404 Permit was held on June 15, 2006. Because of the number of comments received on the Draft Section 404 Permit, Wilmington District determined that the project required a National Environmental

Policy Act (NEPA) EIS. The SEPA process was then suspended, and the NEPA process was begun. Our review contained herein is of the draft version of this NEPA EIS, which we understand is intended to also fulfill the requirements of SEPA.

The Western Wake Regional Wastewater Management Facilities NEPA EIS process then began when the Wilmington District issued a Public Notice for the project on March 30, 2007. The Department of the Army Notice of Intent (NOI) to prepare the NEPA EIS appeared in the *Federal Register* on April 9, 2007 (Vol. 72, No. 67), and also in the *News & Observer* on April 15, 2007. A public scoping meeting for the project was subsequently held at the Apex Town Hall on April 19, 2007, with approximately 12 people reportedly attending this meeting. The Wilmington District reportedly accepted written comments until April 30, 2007.

Overview of EPA's Review of this DEIS

Although EPA has some remaining concerns as noted in this letter, this DEIS comprehensively documents the impacts of the proposed Project, reasonable action alternatives, and the No Action Alternative. This proposed Project features wastewater conveyance, wastewater treatment, and effluent conveyance and discharge for the North Carolina communities of Cary, Apex, and Morrisville, and effluent conveyance and discharge for the Town of Holly Springs. These communities are all located in the western portions of Wake County, North Carolina, and are collectively known as the Western Wake Partners. This DEIS was reportedly prepared in accordance with NEPA regulations promulgated by the Council on Environmental Quality, United States Army Corps of Engineers publication ER-200-2-2, and the requirements of the North Carolina (State) Environmental Policy Act (SEPA). This DEIS has also been developed through the Corps of Engineers' project delivery team (PDT) process that included federal, state, and local agencies and the public. This PDT process will involve inviting comments on the DEIS prior to issuance of the FEIS, and it is thus our understanding that, in addition to EPA, members of the public and other stakeholders are being encouraged to review and make comments on the DEIS. To avoid having potential conflicts between a SEPA EIS and a separate NEPA EIS, Wilmington District, NCDENR, and the Partners have reasonably decided to develop this DEIS to meet both NEPA and SEPA requirements.

The Corps of Engineers will utilize the Final EIS (FEIS) for the proposed Project to support decision making associated with issuance of a Clean Water Act Section 404 permit for dredge and fill activities within waters of the U.S. by the USACE. In addition, it is our understanding that agencies within the North Carolina Department of Environment and Natural Resources (NCDENR) will use the FEIS to meet the requirements of SEPA prior to the (potential) issuance of state permits and approvals, including a National Pollutant Discharge Elimination System (NPDES) permit for a discharge to surface waters. Based upon the findings reported in the FEIS, it is our understanding that the North Carolina Division of Water Quality (NCDWQ) may issue an NPDES permit to the Town of Cary to discharge treated effluent to the Cape Fear River for wastewater generated within the Towns of Apex, Cary, and Morrisville. Based upon the findings reported in the FEIS, it is also our understanding that NCDWQ may also

issue an NPDES permit for the Town of Holly Springs to expand its permitted treatment capacity and relocate its discharge from Utley Creek to the Cape Fear River.

As part of this collaborative effort, the Partners are also attempting to address both a State of North Carolina regulatory mandate and a State of North Carolina recommendation. The regulatory mandate that has been issued by the North Carolina Environmental Management Commission (NCEMC) addresses an interbasin transfer (IBT) by the Towns of Apex, Cary, and Morrisville. "This mandate requires the towns to return water to the Haw or Cape Fear River Basin after 2010. In addition, the NCDENR Division of Water Quality (NCDWQ) strongly recommended the removal of Holly Springs' wastewater discharge (NPDES permit number NC0063096) from Utley Creek."

Reported Purpose and Need of the Proposed Action

EPA concurs with the reported purpose and need of the proposed action "to provide the foundation for regional wastewater service capacity to meet existing and forecasted demand in the project service area" for a projected combined population in 2030 of over 432,000 (combined populations of the Towns of Apex, Cary, Morrisville, and Holly Springs). The regional wastewater service "will be consistent with the NCEMC mandate in the IBT certificate to return water to the Haw or Cape Fear River Basin and the Town of Holly Springs' commitment to relocate its NPDES discharge from Utley Creek." The stated need for the proposed action is "to provide wastewater treatment capacity for the projected population growth and the associated increase in land development in western Wake County." This DEIS has been appropriately developed in response to a required maximum monthly wastewater capacity for the 4 towns of approximately 62 million gallons per day (mgd), including 24 mgd of treated wastewater effluent to be discharged at several existing NPDES permitted outfalls, and approximately 38 mgd pumped, conveyed, and discharged by the proposed facilities to a new outfall location.

Proposed Project Infrastructure Elements

EPA concurs with the proposed action's "two phase project" approach involving development of a regional wastewater system that includes the construction of a single water reclamation facility (WRF) to serve the Towns of Apex, Cary, and Morrisville and RTP South. The proposed WRF site has been selected (north of U.S. Highway 1 and south of Old U.S. Highway 1 between New Hill-Holleman and Shearon Harris Roads), and has a proposed capacity of 30 mgd with a discharge to the Cape Fear River downstream of Buckhorn Dam. The Town of Holly Springs' Utley Creek Wastewater Treatment Plant (WWTP) has already been approved to expand to 6 mgd and will share the 38-mgd outfall to the Cape Fear River.

The DEIS details the following required infrastructure for the proposed Project:

- West Cary Pump Station expansion

- West Cary Force Main - West Cary Pump Station to West Reedy Branch Gravity Sewer
- West Reedy Branch Gravity Sewer - West Cary Force Main to Beaver Creek Pump Station
- Beaver Creek Pump Station
- Beaver Creek Force Main - Beaver Creek Pump Station to Western Wake WRF
- Western Wake WRF
- Effluent Pump Station located on WRF site, Force Main, and Outfall
- Apex Beaver Creek Gravity Sewer
- Cary Green Level Force Main and Gravity Sewer
- Cary Indian Creek Force Main and Gravity Sewer
- Holly Springs Effluent Force Main - Utley Creek WWTP to the Western Wake WRF Effluent Pump Station

EPA's Review of Project Alternatives

The DEIS appropriately features an alternatives analysis that was performed as part of the PDT process, including an evaluation of wastewater management options, wastewater discharge options, WRF site alternatives, conveyance alternatives, and wastewater outfall options. The DEIS notes that the Partners also appropriately evaluated the following wastewater management options that were then subsequently reviewed by the entire PDT:

- No Action Alternative - the facilities already in place would continue to operate as currently permitted (NEPA requires that the impacts of the No Action Alternative be evaluated).
- Independent systems – there would be no "collaboration" for wastewater collection and treatment and therefore it would consist of two new WRFs to serve the western Wake service area.
- Purchase of capacity from other systems – the City of Durham, Durham County or Harnett County would provide treatment capacity.
- Optimum operation of existing systems – the optimum operation of existing plants could result in a rerating of them so they could actually discharge higher flows than permitted.
- Regional land application system – the construction of secondary-type treatment facilities followed by land application to a new dedicated land application site.
- Regional water reuse system – the disposal of the entire amount of the reclaimed water through a regional water reuse system.
- Regional wastewater system - one new WRF would serve the communities of Apex, Cary, and Morrisville, while Holly Springs would continue to operate its WWTP and share an outfall line with other Partners.

The DEIS notes that "from this list, the regional wastewater system alternative was selected. All of the other alternatives were determined to not meet the project purpose and need or would result in much higher environmental impacts than the

proposed regional wastewater system. These other alternative wastewater management options were thus eliminated from further detailed study." While EPA supports the recommended alternative to construct a single new WRF to serve these fast growing communities, EPA encourages a detailed engineering/economic review for potential future optimizing operations at some of the existing plants (which could supplement treatment capacity provided by the new WRF).

EPA's Review of Discharge Alternatives

EPA notes that several discharge alternatives have been appropriately considered in the DEIS:

- a discharge directly to Jordan Lake
- a discharge to the Cape Fear River upstream of Buckhorn Dam
- a discharge to the Cape Fear River below Buckhorn Dam
- a discharge into Harris Lake

EPA Region 4 will not support additional discharges into Jordan Lake and the Cape Fear River upstream of Buckhorn Dam while these waterbodies are still classified as "impaired" and are included on the state's current 303(d) list (approved by EPA) for not meeting the state's EPA-approved Water Quality Standards for *chlorophyll a*. These waters have documented exceedances of the *chlorophyll a* standard. EPA fully supports North Carolina's nutrients management strategy and its associated controls on point source and nonpoint source sources. The strategy is designed to prevent further nutrient enrichment and to preclude subsequent impairment of the state's rivers and streams.

EPA is currently working with NCDWQ to determine region specific, quantitative chlorophyll a criteria, which may require significant modifications to the current chlorophyll a criteria language. Through EPA grants, the state is currently conducting a scientific evaluation and review in order to determine the most effective methodology available with which to implement a revised *chlorophyll a* water quality standard for the control of nutrients. Anticipated outcomes of this review may lead to the incorporation of seasonal growing averages, instantaneous maximums, and frequency and distribution response criteria incorporated into the new, revised *chlorophyll a* standard. Regionally specific *chlorophyll a* criteria will be developed for the mountains, piedmont, sandhills, coastal plains, and estuary regions of North Carolina. Based upon the detailed evaluation and analysis of the relationship between TN, TP, *chlorophyll a*, and trophic status of the water, two categories of quantitative *chlorophyll a* parameters will be proposed for each of the five regions in North Carolina.

EPA thus supports the conclusion in the DEIS that discharge alternatives into nutrient impaired waters should be "eliminated from further discussion." Harris Lake is not on the 303(d) impaired waters list, but NCDWQ reported that it would not permit a new discharge to the lake without detailed water quality modeling. This option is currently being evaluated using a detailed modeling analysis, but to date NCDWQ has reportedly not determined whether a discharge to Harris Lake is feasible (through the

issuance of "speculative permit limits"). If this alternative was implemented, the Town of Holly Springs' preference would reportedly be to have a separate discharge to the lake or elsewhere in its watershed since this would minimize the length of the effluent pipeline (and its associated impacts). To date, NCDWQ has provided speculative permit limits for a surface water discharge "only for a discharge to Cape Fear River downstream of Buckhorn Dam, and this is currently the proposed discharge location."

The draft 2008 303(d) List has been removed from the State of North Carolina's website, and the current EPA-approved list is from the state's 2006 cycle. Before the FEIS is issued, EPA recommends that the Wilmington District consult with the state listing officials to ensure that there are no plans to list Harris Lake in the 2010 listing cycle. The FEIS should also provide a summary of the results of the detailed water quality modeling analysis.

EPA's Review of WRF Siting Alternatives

EPA concurs with the selection of a large number of potential WRF site locations (30) for initial evaluation for this project. It is our understanding that 17 of these candidate sites were quickly eliminated "once the wastewater management option and discharge location were identified; they were originally included as a potential WRF location because they were considered appropriate for a different management option." Based upon an "independent analysis" the Partners then identified the proposed Project WRF site (Site 14) because it reportedly meets the following criteria used by the Wilmington District (and the PDT) to select alternatives to the proposed Project WRF site. EPA does have some concerns related to the degree that proximity to and/or impact on a historical Environmental Justice "EJ" community was initially considered as one of the criteria determining the proposed Project WRF site. This will be more fully addressed in a later section of this comment letter. EPA concurs with all other criteria used to select alternatives for the proposed Project WRF site:

- Number of dwelling units and unique property owners on the site
- Site access - distance from a US highway
- Number of feet of pipeline required for site
- Presence of ponds, wetlands, and/or streams on the site
- Presence of significant natural heritage areas, game-lands, public lands, federal land, and/or state-owned land on site
- Number of threatened and endangered species within 0.5 mile of site
- Population within 0.5 mile of site
- Number of hospitals, churches, daycare centers, schools, and retirement centers within 0.5 mile of site
- Historic resources within 0.5 mile of site

Based on the above criteria, the Wilmington District and the PDT then selected three sites as "reasonable alternatives" for the proposed Project WRF site (WRF Site 14) and then evaluated these further as documented in the EIS:

- Site 19 - This site is south of U.S. Highway 1, east of New Hill Holleman Road, and just south of Friendship Road, and is known as the Project Alternate A site.
- Site 211 23 - This site is south of U.S. Highway 1, east of New Hill Holleman Road, and just south of Friendship Road, and is known as the Project Alternate B site.
- Site 30 - This site is located north of U.S. Highway 1 and just south of U.S. Highway 1 between Shearon Harris and Bonsal Roads, and is known as the Project Alternate C site.

The DEIS appropriately documents the following issues concerning these 3 sites:

- These same 3 sites would be reasonable alternatives if a discharge to Harris Lake is feasible.
- The location of the West Cary Pump Station is identical for all 3 WRF site alternatives. This pump station currently exists and is being expanded as part of this project.
- The location of the Beaver Creek Pump Station is also identical for all 3 WRF site alternatives. It was selected based upon environmental factors (streams and wetlands), social factors (number of property owners/relocations), and cost.
- Similarly, the transmission lines for each alternative are similar. The transmission lines were selected to minimize impacts to the environment (wetlands and streams), property owners and residents, the American Tobacco Trail, federal land, and the New Hill Historic District, as well as to minimize conflicts with existing gas lines and power lines.
- For the Cape Fear River outfall, a bank discharge structure and a diffuser were evaluated. "The bank discharge resulted in fewer impacts to recreation and habitat, and resulted in NCDWQ-acceptable dilution. Thus, the diffuser was eliminated from further detailed analysis, and the bank discharge was selected for all project alternatives."

Regarding the bank discharge structure and a diffuser, EPA recommends that the FEIS verify that if a bank discharge system is utilized, the discharge velocities will not cause or contribute to scour or erosion problems.

Proposed Action Versus 3 Reasonable Action Alternatives and No Action

Based on the screening process summarized in the DEIS, the proposed action (proposed Project) and 3 reasonable action alternatives to the proposed action were appropriately subjected to "further detailed analysis." All 3 are regional wastewater management options that include a WRF that would treat wastewater from Apex, Cary, Morrisville, and RTP South, with an outfall line to the Cape Fear River below Buckhorn Dam that would also be sized to accommodate flow from the Holly Springs WWTP. The alternatives all include the same location for the Beaver Creek Pump Station, and large portions of the transmission line alignments are the same. Each option appropriately considered includes a different WRF site and piping around each plant site. The No Action Alternative appropriately assumed that "there is no new regional wastewater

system and that the area to be served by the proposed Project would continue to be developed primarily as low density residential development served by on-site water and wastewater systems." EPA concurs with the decision that the No Action Alternative should be rejected because it does not meet the project purpose and need as it would not allow Cary, Apex, and Morrisville to meet their mandated IBT certificate and it would not provide the necessary capacity for future wastewater treatment demands.

Environmental, Social, and Economic Consequences

The potential for and degree of environmental, social, and economic consequences associated with the proposed action (proposed Project) and three reasonable action alternatives to the proposed action are generally adequately described in this DEIS. The specific resources evaluated are:

- Water resources including surface water, floodplains, wetlands, and groundwater
- Shellfish or fish and their habitats
- Wildlife and natural vegetation
- Forest resources
- Land use
- Public lands and scenic, recreational, and state natural lands
- Geology, mineral resources, soils, and prime farmland
- Air quality
- Noise levels
- Toxic substances and hazardous substances
- Areas of archaeological or historic value
- Socioeconomic factors
- Environmental justice and protection of children and sensitive groups
- Aesthetics
- Transportation
- Energy needs
- Safety
- Shore accretion and erosion

Evaluation Process of Project Impacts

As appropriately documented in the DEIS, 5 types of impacts were evaluated. These 5 types of impacts are characterized as negligible, moderate, major, or beneficial. Negligible impacts are not detectable or are slight; moderate impacts are readily noticeable; major impacts are clearly noticeable and severely adverse or exceptionally beneficial. The No Action Alternative means no new infrastructure is planned, and "therefore there are no direct impacts on the natural or human environment." The DEIS appropriately notes, though, that the No Action Alternative would still result in growth in the area, and impacts are described below. The 5 types of impacts evaluated are:

Temporary impact: "There is no specific time period associated with this term, and is

determined on a case-by-case basis. In general, a temporary impact is an impact associated with a particular activity for a finite period. For most temporary impacts, this is defined as the period during construction."

Permanent impact: "A permanent impact is a persistent or chronic impact.

Direct impact: "A direct impact is caused by and occurs at or near the location of the action. A direct impact can be adverse or beneficial. Section 4 describes direct impacts. Direct impacts are defined at 40 CFR part 1508.8."

Indirect (secondary) impact: "An indirect (or secondary) impact is an impact that is caused by the action and is further removed in time or distance. Indirect impacts may include growth inducing effects. Indirect impacts are described in Section 5. Indirect impacts are defined at 40 CFR part 1508.8."

Cumulative impact: "A cumulative impact is an impact that results from the incremental impact of a given action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts are described in Section 5. Cumulative impacts are defined at 40 CFR part 1508.7."

Summary of Impacts from Project Alternatives

The DEIS appropriately concludes that "none of the project alternatives evaluated in detail has any major impacts on the resources evaluated. Each alternative has some impacts that were moderate. Overall, the direct impacts from each project alternative are similar." The temporary and permanent direct impacts included all aspects of the project "including the pump stations, transmission lines, WRF, and outfall. The majority of the transmission line infrastructure is identical for each project alternative; the main difference between the various alternatives is the WRF site itself and the transmission lines in close proximity to an individual WRF site. The impacts to streams, wetlands, and floodplains at each WRF site are similar since the layouts were designed to avoid and minimize impacts to these resources. Bottomless culverts are planned to be used for any road crossings into the alternative WRF sites. The site designs also avoid other important environmental resources such as unique habitat areas where practicable."

The main differences between the different project alternatives are summarized in the DEIS Executive Summary as follows:

- Perennial Stream Impacts – "Project Alternate A (WRF Site 19) has over 25 percent more permanent impacts to perennial streams than the proposed Project (WRF Site 14); the other project alternatives are similar to the proposed Project. The perennial stream impacts were estimated from wetlands delineations on the WRF sites and a portion of the transmission line routes. Where wetland delineation data were not available for transmission lines, they were estimated from publicly available CIS data. (Note: wetland delineation data not available only in areas common to all project alternatives)."

- Food and Fiber Production – "There is active agriculture that would be lost on WRF Site 30; there is no active agriculture on any of the other WRF sites."
- Prime farmland – "Project Alternate B (WRF Site 21/23) has over 25 percent more permanent impacts to prime farmland than the proposed Project (WRF Site 14). Prime farmland impacts are based on soil type rather than the location of existing farms and the land use and were estimated from publicly available GIs data."
- "The impacts listed are the maximum expected and are likely to be reduced during final design."
- "The No Action Alternative would have no direct impacts to any of the resources."
- "The proposed Project and the three action alternatives have identical secondary and cumulative impacts. This is because each of the action alternatives supports the same land use plan, and the same ordinances will govern development under each of the alternatives. In general, development would be similar among all action alternatives. The No Action Alternative would result in lower density growth than the three action alternatives. For many resources, this results in lower impacts. For others, there can be a greater risk. For example, under the No Action Alternative, more septic systems would be permitted, and this would result in a greater risk to groundwater resources."

EPA's Environmental Justice (EJ) Concerns

The DEIS examines the effect of the location of Western Wake Regional Wastewater Management Facilities and its associated transport facilities on minority and/or low-income populations. The executive order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (February 11, 1994) and its accompanying memorandum primary purpose is to ensure that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations ..."

To meet these goals, the Executive Order specified that each agency develop an agency-wide environmental justice strategy. EPA defines EJ as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

The Presidential Memorandum that accompanied the Executive Order calls for a variety of actions. Four specific actions are directed at NEPA-related activities, including:

- Each federal agency must analyze environmental effects, including human health, economic, and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA.

- Mitigation measures outlined or analyzed in EAs, EISs, or Records of Decision (RODs), whenever feasible, should address significant and adverse environmental effects of proposed federal actions on minority communities and low income communities.

- Each federal agency must provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility of public meetings, official documents, and notices to affected communities.

- In reviewing other agencies' proposed actions under Section 309 of the Clean Air Act, EPA must ensure that the agencies have fully analyzed environmental effects on minority communities and low-income communities. including human health, social, and economic effects.

It is EPA's understanding that the preferred alternative site was purchased by the Partners prior to completion of the environmental review process. However, we agree that subsequent to that period the COE provided ongoing opportunities for public participation through the NEPA process and met with EPA and stakeholders to request assistance with their EJ analysis and community involvement strategy. EPA provided the COE with various EJ guidance documents and participated in a public meeting with the affected community. The public outreach included a "broad purpose of this multi-layered communications effort to facilitate building and maintaining mutually beneficial and trusting relationships between the WWRF and its staff with those living and working near the site (Neighbors)." The COE's outreach reportedly included home visits, neighborhood meetings, a design charrette open to the public, a project hotline, a web site, signage, and ongoing training. The DEIS reports the following steps were used to complete the process of addressing EJ for the Western Wake Regional Wastewater Management Facilities (WWMF) project.

• Step 1: Determined whether the potentially affected area includes minority and/or low-income populations.

• Step 2: Identified beneficial and adverse changes to existing conditions that may result from the proposed and alternate WRF sites, pump stations, and pipelines.

• Step 3: Determined whether any significant and adverse impacts are likely to fall disproportionately on minority and/or low-income populations.

• Step 4: Developed mitigation measures because there are adverse impacts likely to fall disproportionately on minority and/or low-income populations.

According to the DEIS, demographic information for the project service area was obtained from the U.S. Bureau of Census and North Carolina State Data Center. The environmental justice analysis used 2000 census data to identify minority and low-income populations within 0.5 miles of the proposed facilities and compared that population to a broader service area. The census tracts included in the Western Wake Regional Wastewater Management Facilities service area are shown on Figure G-1. As shown on Figure G-1, the Western Wake WRF, Beaver Creek Pump Station, and West Cary Pump Station are found within Census Tract 534.03. The Upper Crabtree Pump Station is located within Census Tract 536.

The two census tracts, block group 1 (534.03 and 207) with the highest percentage of low income populations that may be affected by the proposed Project and alternatives are reportedly less than 7 percent low-income. This level is twice as high as the Western Wake WRF Service area (approximately 3 percent), but lower than both the Wake County and Chatham County average (approximately 8 percent and 10 percent, respectively). Therefore, the best available data indicates that low–income pockets exist relative to the Waste Water WRF Service area.

During the door-to-door outreach conducted around the proposed and alternative WRF sites since 2006, it was observed "that there are primarily two clusters of potential EJ populations that represent minority communities in the area around the sites and along the proposed pipelines." These two clusters fall within the two census blocks that have the highest minority populations and percentages (Census Blocks 1053 and 1013) near the four WRF sites.

- EJ Group 1 is located in Census Block 1053 along New Hill-Holleman Road between Old Highway 1 and U.S. Highway 1. According to the 2000 census, the total population of Census Block 1053 was 106 with 92 minority persons or 87 percent.

- EJ Group 2 is located along James Rest Home Road south of U.S. Highway 1. According to the 2000 census, the total population of Census Block 1013 was 71 with 67 minority persons or 94 percent. The EJ Group 2 cluster also contains a large nursing home, which contributes to the EJ population. "Many of the families in these two clusters have owned properties in the area for generations."

During the outreach (conducted door to door) between 2006 and 2008, it was reported that "several structures in these areas have been vacated due to death or severe property deterioration. Additionally, due to the dependency on wells for water supply and septic tanks/leach fields for wastewater disposal, many households appear to be unable to make needed improvements to these structures because their wastewater systems are substandard. Consequently, the infrastructure of some occupied structures continues to deteriorate. All of the homes in this area rely on well water and septic systems."

EPA concurs with the Corps of Engineers' EJ Analysis that there are several types of potential adverse impacts that a water reclamation facility (WRF) and associated pump stations and pipelines "could have on an affected community if certain siting, design, and operational requirements are not implemented." The potential primary direct, adverse impacts include the following. Of these impacts, EPA still has concerns about the issues of construction traffic, odor control, potential property devaluation, and ongoing community participation in decisions made regarding the development of the affected EJ community:

- Visual/aesthetic impacts
- Noise
- Light-spill
- Odor
- Traffic
- Property devaluation
- Surface water and groundwater contamination

EPA concurs with the DEIS that "the community in the vicinity of the project facilities could be adversely affected by property devaluation due to the project." As part of the Environmental Justice Analysis for this DEIS, it is our understanding that Wake County Revenue Department property data was examined to determine if the Partners' other WRFs and wastewater treatment plants (WWTP) in Wake County have impacted nearby property values. The analysis was reportedly conducted around the following four facilities (approximate year constructed in parentheses): North Cary WRF (1984), South Cary WRF (1988), Utley Creek WWTP (1990), and Middle Creek WWTP (1986). Also, the number of residential properties developed prior to and after construction of the water reclamation and wastewater treatment facilities was identified to determine if the presence of the facilities had impacted residential growth. The Environmental Justice Analysis made the following observations:

- "The rate of residential development within 0.5 mile of the facilities does not appear to have been impacted, based on comparison to the rate of residential development in the southwest quadrant of Wake County. Around the North Cary, South Cary, and Utley Creek facilities, residential development increased significantly in the years since the facilities were built. The rates of development around these facilities have exceeded the rates of development in southwest Wake County. No development has occurred within 0.5 mile of the Middle Creek facility since it was built."

- "The homes and land that have been developed around the North Cary WRF and South Cary WRF have an average assessed value above that of the average assessed value in southwest Wake County. Subdivisions built around these two facilities are composed of larger and higher-priced homes than are typical in southwest Wake County."

- "The homes and land that have been developed around the Utley Creek WWTP have an average assessed value below that of the average assessed value in southwest Wake County. Subdivisions built around this facility are composed of smaller and lower-priced homes than are typical in southwest Wake County."

- The EJ analysis then concludes that "from analysis of Wake County Revenue Department data, there does not appear to be evidence to suggest that water reclamation and wastewater treatment facilities in southwestern Wake County have negatively impacted residential growth or property values. This analysis is based on existing facilities but does not necessarily predict growth or values of properties around the Western Wake WRF." However, the analysis indicates that the land value may increase, but the taxes may also increase. This increase may not be a benefit to the landowners, but may be a burden if they are unable to pay the inflated taxes.

- EPA believes that the information in the EJ analysis on property values in Wake County related to their proximity to wastewater treatment facilities is of limited value, because a comparison of individual home values (based upon resale and/or assessed value) prior to and after wastewater treatment facility construction was not conducted. EPA continues to have concerns that construction of the large Western Wake WRF facility at Site 14 will adversely impact property values in the area of the historical EJ community.

EPA has concerns that during the fairly lengthy (3-year) WRF construction period, a potential 90 trips per day for personnel vehicles, work trucks, and other light vehicles to the site, as well as an average of up to 20 trips per day for larger vehicles (heavy equipment, materials deliveries, and concrete mixers), could adversely impact the EJ community. Other large types of vehicles (e.g. chemical trucks - metal salts, sodium hypochlorite, and polymer, diesel fuel trucks, grit/screening dumpster trucks, and biosolids hauling trucks) could adversely impact the EJ community, both during and after construction.

EPA also has concerns that intermittent odors emanating from the new WRF could adversely affect the historical EJ community. However, we do agree with the Town of Cary's new Superintendent of Public Works and Utilities (Mr. Stephen J. Brown, P.E.) that "the approximate 1000 feet degree of separation and mostly-forested perimeter buffer" between the WRF's closest active treatment unit and the nearest Site 14 residence will be significantly better than what currently exists at the South Cary Water Reclamation Facility (SCWRF), where there is only about 300 feet of separation (and no vegetated buffer) between active treatment units and the closest residence. Nevertheless, as Mr. Brown points out in a June 26, 2008 letter to COE Project Manager Henry Wicker regarding the Site 14 residents: "we cannot guarantee the neighbors will never detect any odors." EPA would like to point out an important (and obvious) distinction between the WRF and the SCWRF. The problems at the SCWRF occurred because local land planners first allowed residential zoning, approved a new plat (record map), approved subdivision plans, and then issued building permits for a new subdivision to be built too

close to an existing wastewater treatment plant (SCWRF), whereas the WRF is proposed to be built next to a small community that has been in existence at its present location for over 100 years. Further, the community has concerns that the proximity of the WRF will affect their quality of living and the activities that they enjoy. This community has a history of participating in public gatherings and other social events and desire to continue these events.

In addition to the impacts described above, there does not appear to be any discussion within the EJ section regarding other proposed major expansions within the vicinity of the proposed project area (e.g. the nuclear power plant, landfills). This type of information is important for assessing cumulative impact and should be incorporated in the final EIS.

EPA's Recommendations for Public Involvement with the EJ Community

Based on potential EJ impacts and the need for mitigation, the COE and the Partners should organize a Community Advisory Group that would meet periodically with management of the Wastewater WRF site. The purpose of these meetings would be to facilitate ongoing dialogue between the stakeholders to discuss concerns and issues. These meetings should be productive and promote reasonable solutions to concerns that the community may have. In addition, they may require a facilitator.

EPA noted that a design charrette was conducted. EPA recommends that additional charrettes or planning sessions be held to allow the community to provide feedback on the potential development of their community.

EPA's Comments on Mitigation Offered to the Site 14 Affected EJ Community

Because of the potential adverse impacts to the Site 14 community, including intermittent odors, additional traffic, property devaluation, and other issues, EPA understands that mitigation is being offered to the historical EJ community residents by the Town of Apex in the form of the provision of water and sewer service for properties located within census block 534.03-1053 (the "affected community"). It is understood by EPA that "the provision of water and sewer service is being offered as a mitigation measure for locating a water reclamation facility on Site 14 (formerly the Seymour property), which is within census block 534.03-1053. It is further understood that if the water reclamation facility is not located on Site 14, then the proposed policy described herein will be withdrawn from further consideration." EPA has the following comments on the proposed mitigation program:

- EPA notes that "the Partners propose to offer residents of census tract 534.03, Block 1053 water and sewer system connections free of charge or with deferred charges, depending on the property owner's future plans for his or her property..." It is unclear why resident in census tract 532 (e.g. Block Groups

1013) are not considered as part of the mitigation process given that site is located on the border of this census track.

- As this proposed project is still in the DEIS phase, the proposed closing date of January 1, 2010 for property owner acceptance of the water and sewer service should probably be extended – to at least July 1, 2010.

- The proposed policy claims that the Town Council of Apex "will not require annexation as a condition for providing water and sewer service." But after one decade elapses this becomes no longer true. As a condition of accepting water and wastewater service under the proposed policy, the property owners agree to their eventual annexation at some unspecified date in the future after January 1, 2020, when the Town of Apex "may initiate annexation proceedings for all, or a portion of, the properties located in the affected community." Further, when the Town of Apex does commence annexation proceedings, the property owners that received water and wastewater service waive their right "to protest or contest the annexation proceedings brought forth by the Town of Apex." This basically could lead to the end of the historic EJ community. After annexation into the Town of Apex, the properties could then be rezoned, replatted, and then subdivided under a new master plan. Rising property values brought on by new developments in the area could make it onerous for older or low-income residents (that chose to stay in the community and not sell) to see their property taxes increase to a point where they would be forced to move.

- The description of the new water and wastewater collection system makes no mention of the cutting of (or excavation within) roadway pavements, or who pays for backfilling, patching, and resurfacing after installation activities. Will streets that have been cut and patched receive full-width wearing surface overlays?

- The property owners also agree to allow the Town of Apex to acquire easements "as may be required for the proper construction, installation, operation and maintenance of the water and sewer facilities." Apex agrees that "to the greatest extent practicable, all easements shall be located in a manner so as to minimize impacts to existing structures and to not unreasonably impact the property owner's current and future uses of the property." Nevertheless, the local community should be shown a map *beforehand* of where the easements will be needed before the property owners accept the water and wastewater service. Some property owners may not realize that fairly wide or long easements that may be needed through their yard and that may limit the full use/enjoyment of their property (e.g., home expansions could not be built in easements, paved areas and fencings may be restricted, types of landscaping may restricted, etc.

- The Town of Apex agrees to pay fair compensation to property owners for easements. The Town should also pay for replacement fencing, sod, and landscaping that are impacted in construction areas.

- The residents in the affected community that accept the water and wastewater service agree to pay a monthly water and sewer bill proportional to the level of service received as determined by monthly water meter readings. The residents should be fully briefed beforehand on how much these bills may actually cost. Some residents may not be familiar with how much all of this will cost nor may they be able to cover these costs.

- In the Community Employment Opportunities section, it is mentioned that the "project will create opportunities for employment during construction of the WRF and pipelines." It furthers states that "the Partners will set a goal for the general contractor to provide a percentage of the total subcontracting work to small and disadvantaged businesses." The concern is that the goal has not been specified nor is there mention of the number of people from the community who be employed from the 25-35 required for operation.

- Finally, estimated acreage fees and capacity fees that would be payable to the Town of Apex by the property owner after annexation proceedings should be shown beforehand to all residents. Again, some residents may not be familiar with how much all of this will cost.

Summary

EPA concurs that the preferred site location for the proposed new WRF has a number of advantages:

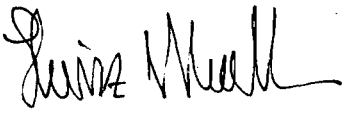
- The proposed site is accessible to a major highway (U.S. Highway 1)
- The proposed site disturbs only about 69 acres (for construction of 5 main buildings) out of a total site acreage of about 235 acres, and thus allows for the implementation of a relatively large forested buffer to be maintained around the site.
- In the event of an unusual situation (or emergency), the facility has the advantage of being staffed and operated 24 hours per day, 365 days per year.
- The Town of Cary, responsible for the financial integrity of the long term operations and maintenance costs of the new WRF, has general obligation bond ratings of AAA (highest possible rating) from all three national credit rating agencies (Moody's, Standard and Poors, Fitch).
- Design criteria, architectural standards, and operational practices are required for this project to minimize impacts to residents in the area immediately surrounding the WRF property.
- A forested buffer, meeting or exceeding 200 ft in width in most places, will be maintained around the WRF site to minimize or eliminate the view of the facility from all areas. The railroad embankment along Old Highway 1 (on the northern side of the property) will also help visually screen the facility.
- Potential sources of operational noise will be located at minimum of 300 feet from the property lines and housed in buildings designed to reduce noise, with a project goal of "no noise affecting the surrounding community."

- Lighting will consist of spaced street lighting on access roads and task lighting that will be approximately 20 to 25 feet high. The task lighting "will be directed toward the task and away from areas on the site that are not being used. These lights will also be controlled so they will not remain on all night. The lights are
- required so the operator can conduct visual inspections of facility operations 24-hours per day."
- State-of-the-art equipment and operational practices will be implemented to reduce odors. "While most of the time WRF neighbors will not notice any odor from the facility, odors may be detected from time to time beyond the property line of the facility. How often and how far away odors are detected will depend on many factors including proper functioning of the processes and weather conditions. The facility staff is responsible for ensuring proper operation, which generally minimizes facility odor. Another important decision to control odor is purchasing much more land (four times more) than is actually needed for the facility itself so that there will be plenty of buffer around the site."
- A new access road to the facility will be built from Shearon Harris Road, and the "Town of Cary will provide all contractors with preferred routes, which will avoid left turns and railroad crossings." During operations, there will be approximately 20 to 25 employees on the site that who will enter from Old U.S. Highway 1.

Despite the advantages listed above, EPA does have remaining concerns about two environmental issues: water quality modeling for a potential Harris Lake discharge is not completed and a more detailed wetlands delineation is needed in the transmission corridor. Regarding EPA's environmental concerns, NCDWQ has reported that it would not permit a new discharge to Harris Lake without detailed water quality modeling. This option is currently being evaluated using a detailed modeling analysis, but to date NCDWQ has reportedly not determined whether a discharge to Harris Lake is feasible. If this alternative was implemented, the Town of Holly Springs' preference is reportedly to be to have a separate discharge to the lake or elsewhere in its watershed since this would minimize the length of the effluent pipeline (and its associated impacts). Finally, perennial stream impacts were estimated for the DEIS from wetlands delineations on the WRF sites and a portion of the transmission line routes. Where wetland delineation data was not available for transmission lines, it was only estimated from publicly available CIS data. EPA recommends the inclusion of the detailed modeling for a new discharge to Harris Lake, as well as more detailed wetlands delineations for the transmission line route, be made available for assessment in the final document. Therefore, a rating of EC-2 "Environmental Concerns" with additional information requestedhas been assigned at this time.

Thank you for the opportunity to comment on the DEIS. If we can be of further assistance, please do not hesitate to contact me at (404) 562-9611 or mueller.heinz@epa.gov or my staff engineer, Paul Gagliano, P.E. at (404) 562-9373 or gagliano.paul@epa.gov.

Sincerely,



Heinz J. Mueller, Chief
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Office of Policy and Management